

REMARKS

I. Introduction

In response to the Office Action dated July 28, 2004, claims 17, 18, 19, 22, 23 and 24 have been canceled, and claims 4, 5, 7, 11, 12, 14, 15, 20, 27, 28, 31 and 32 have been amended. Claims 1-16, 20-21 and 25-32 remain in the application. Re-examination and re-consideration of the application is requested.

II. Claim Amendments

With regard to the amendments made to claims 4, 5, 7, 11, 12, 14, 27, 28, 31 and 32, as indicated above, these amendments were made solely for the purpose of clarifying the dependencies of the claims, and were not required for patentability or to distinguish the claims over the prior art.

III. Non Art Rejection

In paragraphs (1)-(2) of the Office Action, claims 4, 5, 7, 11, 12, 14, 17, 22, 28, and 32 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

Applicants' attorney has amended and canceled the claims as indicated above to overcome these rejections.

IV. Prior Art Rejections

A. The Office Action Rejections

In paragraphs (3)-(4) of the Office Action, claims 1, 2, 7-9, and 14 were rejected under 35 U.S.C. §102(e) as being anticipated by Laakso et al., U.S. Patent No. 6,456,605 (Laakso). In paragraph (5) of the Office Action, claims 15-24 were rejected under 35 U.S.C. §102(e) as being anticipated by Kang, U.S. Patent No. 6,397,043 (Kang). In paragraph (6) of the Office Action, claims 25, 27, 29, and 31 were rejected under 35 U.S.C. §102(e) as being anticipated by Wilson, U.S. Patent No. 6,718,347 (Wilson). In paragraph (9) of the Office Action, claims 26, 28, 30, and 32 were rejected under 35 U.S.C. §103(a) as being unpatentable over in view of Conrow et al., U.S. Patent No. 5,526,409 (Conrow). In paragraph (10) of the Office Action, claims 3-7 and 10-14 were rejected under 35 U.S.C. §103(a) as being unpatentable over Laakso in view of Maru, U.S. Patent No. 6,385,180 (Maru). However, in paragraph (11) of the Office Action, claims 6 and 13 were indicated as being allowable if rewritten to overcome the rejections under 35 U.S.C. §112, second paragraph,

set forth in the Office Action and to include all of the limitations of the base claim and any intervening claims.

Applicants' attorney acknowledges the indication of allowable claims, but respectfully traverses these rejections.

B. The Laakso Reference

The discussion concerns the mutual arrangement of packets to be transmitted in a radio system, where the transmitted data is formed into packets (204, 205, 206) for the transmission. The system comprises at least two transmitting devices which transmit substantially simultaneously and substantially on the same frequency, whereby the carrier power transmitted by the first transmitting device is interference power to those receiving devices, to which the second device transmits carrier power, and vice versa. In order to arrange the packets there is generated a utility function with a value, which depends on the carrier power and the interference power and which can be obtained by calculation for the transmitted packets in their mutual transmitting order at that moment. The packets to be transmitted are arranged in a mutual transmission order corresponding to the extreme value of the utility function.

C. The Kang Reference

A method for controlling the forward link power independent of reverse link power control is described. In a mobile communication system where the reverse link is degraded thereby preventing the forward link status to be sent to the base station, the base station estimates the forward link power using power control information received via the reverse link prior to the reverse link being degraded. The forward link is improved using the power control information and once improved the reverse link is improved via the improved forward link.

D. The Wilson Reference

A method for use in a computer system including first and second computers and first and second storage systems, wherein the first storage system is coupled to the first computer to store data transferred from the first computer to the first storage system and the second storage system is coupled to the second computer to store data transferred from the second computer to the second storage system. The method is for updating data stored on at least one of the first and second storage systems, and includes updating a first logical volume of data stored on the first storage

system with a first set of data transferred from the first computer to the first storage system; receiving, at the first storage system, a second set of data transmitted from the second storage system to the first storage system via at least one communication path that does not pass through the first computer; and updating the first logical volume of data with the second set of data transmitted from the second storage system.

E. The Conrow Reference

The present invention is a point-of-presence device installed in a merchant establishment as an interface between a retail information system and a transaction card authorization network. By using a simple message data format between the retail information system and the device, the device insulates the retail information system from changes to local communication access methods and changes to point-of-sale compliance requirements initiated by the card processor. The device first establishes a dial-up telephone connection to the authorization network and then interleaves both financial data messages and non-financial messages over the same telephone line to the authorization network. The device provides authorization response times that substantially equal response times provided by leased line connections to the authorization network. In addition, the present invention provides improved diagnostic and draft capture capability for the retail information system.

F. The Maru Reference

In a high-speed search system for CDMA, plural (M) symbols which are subjected to spread frequency coding with a spreading code called as a short code are prepared when synchronization of the spreading code is established before synchronization of carrier is established in a mobile station used in a CDMA cellular system, data which are obtained by forming an orthogonal code with the polarities of the M symbols are set as a down signal, and when the orthogonal code concerned is detected, coherent integration is performed by a correlator having combinations of the polarities which can be possibly taken by the code over the plural symbols (of M) constituting the code.

G. The Applicants' Invention is Patentable Over the References

The Applicants' invention, as recited in independent claims 1, 8, 15, 20, 25, and 29 is patentable over the references, because the claims contain limitations not taught by the references.

With regard to independent claims 1 and 8, the Office Action asserts that Laakso teaches the limitations "determining a bit error rate for an orthogonal code included in a frame transmitted by the wireless communications system" at col. 8, lines 20-49 and the limitations "adjusting transmit power in the wireless communications system based on the determined bit error rate" at col. 19, lines 45-64.

These portions of Laakso are set forth below:

Laakso: Col. 8, lines 20-49 (actually lines 20-48)

FIG. 3a shows a radio resource knapsack 300 suitable to be used in the TDMA cellular radio system part shown in FIG. 1, whereby the radio resource knapsack includes a pair 301 to 310 formed by two consecutive frames from each of ten base stations. The task of the base station controller 101 shown in FIG. 1, or of some other device optimising the utilisation of the resources, is to place the packets to be transmitted from each base station into the slots of the frames of the corresponding base station in a manner that is as advantageous as possible. In the figure it is assumed that the slot division of the frames is the same in each cell, which is not necessary regarding the invention. FIG. 3b shows a radio resource knapsack 320 which is suited to be used in a CDMA cellular radio system, whereby the radio resource knapsack includes one frame 321 to 330 from each of the ten base stations, whereby each frame is divided into slots by using almost orthogonal spreading codes, whereby the slots are superimposed with other in the direction of the time and in the direction of the frequency (for the sake of clarity the slots are shown only partly on top of each other in the figure). FIG. 3c shows another radio resource knapsack 340, which is suitable to be used in the CDMA system, which concerns only one base station and which contains all those slots 341 to 350, in which said base station can simultaneously transmit packets. The different widths of the slots 341 to 350 mean that the simultaneous CDMA slots can represent different data communication capacities, depending on the spreading ratio of the spreading code used in them.

Laakso: Col. 19, lines 45-64

Instead of the above presented trial method the control of the transmit power can also be made by a calculation method based on optimisation theory, where the variables are the transmit power values of packets placed in simultaneous slots, and where the utility function to be maximised is a function which is dependent on the C/I ratios calculated for the packets on the basis of the transmit powers and the distance attenuation. A method which is suitable to find the extreme value of a multivariable function is the so called conjugate gradient method, which however requires a very high calculation capacity if there is a large radio resource knapsack to be optimised. Another variant of the above presented power control method is that the C/I ratio used as the determination basis is replaced for instance by the signal-to-noise ratio, by the estimated bit error rate (BER) or frame error rate (FER), or by any other factor representing the quality of the radio connection. Also in the calculations regarding the power control it is possible to use the top and bottom cutters for the C/I ratio (or another corresponding factor) in the same way as was presented above.

The above discussion at col. 8, lines 20-49 refers to the orthogonal spreading codes used to "chip" a frame prior to transmission in a CDMA system. In contrast, the orthogonal codes recited in Applicants' claim 1 are not spreading codes, but instead are inserted into the frame itself for the determination of bit error rates. Further, the above discussion at col. 19, lines 45-64 refers to the use of a bit error rate, but not for an orthogonal code inserted into the frame.

With regard to independent claims 15 and 20, the Office Action asserts that Kang teaches the limitations "determining whether a frame was received in error during a transmission in the wireless communications system" and "increasing transmit power for a re-transmission of the frame received in error in the wireless communications system" at col. 5, lines 43-44, col. 6, lines 41-47, Fig. 6, and col. 6, line 66 to col. 7, line 18. In addition, regarding the limitations originally found in claims 17 and 22, the Office Action asserts that Kang discloses increasing the transmit power in accordance with the frame's number at col. 2, lines 47-53, col. 5, lines 26-31 and col. 6, lines 41-47. Moreover, regarding the limitations originally found in claims 18 and 23, the Office Action asserts that Kang discloses increasing the transmit power in accordance with an amount of data transmitted at col. 2, lines 47-53, col. 5, lines 26-31, and col. 6 lines 41-47. Further, regarding the limitations originally found in claims 19 and 24, the Office Action asserts that Kang discloses increasing the transmit power by steps when one or more starting frames are received in error at col. 3, line 65 to col. 7 line 24 and col. 6 lines 24-35.

These portions of Kang are set forth below:

Kang: Col. 2, lines 47-53

According, to this method, the mobile station measures the forward frame error rate (FFER) from the frames received via the forward traffic link between the mobile station and the synchronized BTS. If the FFER exceeds a predetermined threshold, the mobile station reports the number of bad frames received via the forward link to the BTS by way of the PMRM.

Kang: Col. 5, lines 26-31 (actually lines 25-30)

However, the EIB needs to be evaluated over a duration of approximately five frames to determine transmit power and forward link status whereas the PMRM informs the BTS only if some error frames, i.e., BAD_FRAMES are received, where the number of error frames is predetermined.

Kang: Col. 5, lines 43-44

If ACK is not received or NACK is received, the BTS or mobile station re-transmits the corresponding message.

Kang: Col. 6, lines 24-35

To perform power control in accordance with the second method, it is necessary to find optimal values for each of the three aforementioned input parameters through repeated testing. That is, the additional input parameters described above will be continually checked (i.e., repeatedly tested) to determine optimal values. More particularly, repeated testing describes a step of measuring whether reverse erasure frames are continuously received in the most recent time interval (the time interval being of some pre-determined duration), and determining whether to re-transmit the Layer 2 ACK and the pilot strength of PMRM. The testing procedure is described below.

Kang: Col. 6, lines 41-47

When the BSC receives a reverse erasure frame, the BSC confirms whether the PMRM message which includes the forward error rate count is higher than a specified level of the reverse erasure frame in the PMRM previously received, and if a forward error is higher than a specified level then the forward transmit power is increased, otherwise the present power control status of the BTS is maintained.

Kang: Col. 6, line 66 - Col. 7, line 18

FIG. 6 shows a flow chart illustrating a method for controlling forward power through changes in PMRM or Layer 2 Ack history according to the present invention. As illustrated in FIG. 6, the BSC determines whether there is at least one error in PMRMs received within the most recent N seconds and whether a message has been transmitted on the Layer 2 Ack history, at step 600.

Since the PMRM includes the forward frame error rate, the BSC confirms whether all frame error rates, which are included in those PMRMs received within the most recent N seconds, are less than or equal to a specific threshold. If all frame error rates included in the PMRMs received within the most recent N seconds, are less than or equal to a specific threshold, the BSC determines that no error occurred in the forward link within the recent N seconds.

If there is no error in the PMRMs received within the most recent N seconds and no message has been re-transmitted on the Layer 2 ACK History, the BSC orders the BTS to decrease the forward transmit power at step 610, otherwise, the forward transmit power is increased at step 620.

Kang: Col. 3, line 65 - Col. 7, line 24

According to another embodiment of the present invention, a method for controlling forward link power independent of reverse link power control includes the steps of: measuring by a mobile station, the pilot signal strength which is received from a BTS, and repeatedly reporting the measured strength and forward frame error rate through the PMRM message to the BTS; transmitting a message to the mobile station on Layer 2 if acknowledgment for the message is not received from the mobile station during a pre-specified time interval since the BTS has re-transmitted the message via the forward link to the mobile station; confirming by mobile station where an erasure frame occurs on the forward link and transmitting an EIB bit via the reverse link to the BTS if the erasure frame occurs on the forward link; confirming by the BTS whether the erasure frame has occurred on the reverse link after the BTS receives at least one PMRM and the EIB from the mobile station;

performing power control of the forward link by the BTS using PMRMs and ACK History if the erasure frame has occurred on the reverse link as a result of the confirming step, wherein the PMRMs are received from the mobile station before the erasure frame has occurred and the ACK History occurs in Layer 2 of the mobile station and the BTS; and performing power control of the forward link by the BTS using the EIB received from the mobile station if the erasure frame has not occurred on the reverse link as a result of the confirming step.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 illustrates the receive sensitivity of mobile station according to variation of distance between BTS and mobile station in connection with signal received in the mobile station when the BTS transmits signal at a constant strength.

FIG. 2 illustrates the time when EIB is set in case that erasure frame occurs.

FIG. 3 illustrates forward link and reverse link.

FIG. 4 illustrates conventional method in case that all of forward and reverse links are not good.

FIG. 5 shows a flow chart illustrating a method for controlling forward power according to the present invention.

FIG. 6 shows a flow chart illustrating a method for controlling forward power through the development of changes of PMRM or Layer 2 ACK History according to the present invention.

FIG. 7 shows a table illustrating forward link information to be received according to the forward link status and reverse link status.

FIG. 8 illustrates a result of method for controlling forward link power independent of reverse link power control according to the present invention in case that all of forward and reverse links are not good.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

The forward link and reverse links of a CDMA system are closely related to each other. If the quality of either link is not good, it may adversely influence the other link.

Referring to FIG. 4, in step 410, the MS transmits a reverse traffic frame to the BTS including EIB set to 1. Because the reverse link is bad, the BTS cannot properly receive the reverse traffic frame. That is, the BTS receives, instead, a bad frame having errors and reports the bad frame to the BSC. In step 420, upon receiving the bad frame from the BTS, the BSC determines that the reverse link is faulty and transmits a forward traffic frame, including a reverse power control bit to the MS via the BTS. However, if the forward link is also faulty, the forward traffic frame cannot be properly received by the MS, consequently the reverse link cannot be recovered. Step 430 is provided to indicate that steps 410 and 420 are repeated over and over thereby overloading the MS, BTS, and BSC due to the repetitive messaging associated with steps 410 and 420.

FIG. 4 illustrates two cases, a first case where the reverse link status is bad, and as a consequence, the BTS receives reverse frames from the mobile station via a TCE (Traffic Channel Element), as erasure frames (i.e., BAD_FRAME 410). A second case where the forward link status becomes bad. When this occurs, a mobile station (MS) does not receive the reverse power control bit via the forward link 420. As a result, a call will be released when the mobile station or the BTS continuously receives erasure frames (i.e., BAD_FRAME 430).

In a cellular system, a base station controller (BSC), which controls a plurality of BTSs, controls the power of each BTS using the transcoder and selection bank (TSB). That is, the TSB of the BSC manages the forward power control of each of the plurality of BTSs.

The TSB of a BSC determines both the transmit power and the forward link status of the BTS from either the erasure indicator bit (EIB) or the PMRM of the reverse traffic frame uploaded from the mobile station.

However, the EIB needs to be evaluated over a duration of approximately five frames to determine transmit power and forward link status whereas the PMRM informs the BTS only if some error frames, i.e., BAD_FRAMES are received, where the number of error frames is predetermined.

In addition to the above, additional methods for confirming the receive sensitivity (i.e., quality of the received signal) of the mobile station by the BTS include using Layer 2 Acknowledgment (ACK) history.

The Layer 2 ACK history is a method of using the ACK-SEQ (1 bit) being exchanged on Layer 2, the data link layer, between the BTS and mobile station. Generally, the acknowledgment is included in a signaling message on the forward and reverse traffic channels. If an abnormal message is received, the BTS and mobile station either does not respond with an ACK or responds by issuing a NACK.

If ACK is not received or NACK is received, the BTS or mobile station re-transmits the corresponding message.

The above two cases, (i.e., using the EIB and using Layer 2 ACK history) can provide an additional decision basis for real time power control, however, they are insufficient to determine power control by themselves. This is because the Layer 2 ACK history can not confirm whether the mobile station receives transmit frames of the BTS, or whether the BTS does not receive transmit frames of the mobile station, even though messages are transmitted between the mobile station and the BTS. That is, the Layer 2 ACK history provides only the composite quality about the forward and reverse links and does not inform which link has a problem.

However, in case where the EIB or PMRM message does not arrive at the BTS because the reverse link status is not good, the Layer 2 ACK history or reverse erasure frame can be useful information for determining the status of the forward link. This is true because the BTS already knows that the reverse link status is not good. That is, by receiving an EIB set to 1 it is a certainty that there is a need to increase the transmit power level of the BTS, and additionally receiving the reverse erasure frame means the transmit power level of the mobile station is not good.

The present invention provides a method to quickly respond to the demand for receive power of the mobile station based on four kinds of information, i.e., EIB, PMRM, Layer 2 ACK history and reverse erasure frame.

The present invention is applicable into two cases, a first case where the reverse link is good between the mobile station and BTS, and a second case where the reverse link is not good. In both cases, the BTS can not determine whether the forward link status is good or bad due to a faulty reverse link.

In the first case where the reverse link is good, the BSC can perform power control because it is possible to normally receive the EIB or the PMRM message on the reverse link. However, when the reverse link is not good, it is not possible for the BTS to know the forward link status because EIB or PMRM is not received in the BTS. In the second case, the BSC needs to estimate the forward link status using the

reverse erasure frame and Layer 2 ACK history to perform power control as well as some additional input parameters.

The additional input parameters include, determining whether reverse erasure frames are continuously received, whether re-transmission is continuously performed as an ACK is not received for the recent Layer 2 ACK history, and the value of pilot strength of the recently received PMRM.

To perform power control in accordance with the second method, it is necessary to find optimal values for each of the three aforementioned input parameters through repeated testing. That is, the additional input parameters described above will be continually checked (i.e., repeatedly tested) to determine optimal values. More particularly, repeated testing describes a step of measuring whether reverse erasure frames are continuously received in the most recent time interval (the time interval being of some pre-determined duration), and determining whether to re-transmit the Layer 2 ACK and the pilot strength of PMRM. The testing procedure is described below.

Estimating Forward Link Status Via Reverse Erasure Frames

A method for estimating the forward link status using the reverse erasure frame will now be explained.

When the BSC receives a reverse erasure frame, the BSC confirms whether the PMRM message which includes the forward error rate count is higher than a specified level of the reverse erasure frame in the PMRM previously received, and if a forward error is higher than a specified level then the forward transmit power is increased, otherwise the present power control status of the BTS is maintained.

FIG. 5 is a flow chart illustrating a method for controlling forward power using the reverse error frame. As illustrated in FIG. 5, the BTS determines whether the reverse erasure frame is received at step 500, and if the reverse erasure frame is not received, i.e., the reverse link status is good, then forward power control is performed using the EIB information received via the reverse link at step 510. Otherwise, when a reverse erasure frame is received, i.e., when the reverse link status is not good, it is impossible to perform forward power control using the EIB information received via the reverse link and the BSC must therefore perform forward power control from changes in the PMRM or Layer 2 ACK history at step 520.

Measuring Forward Link Status Via PMRM and Layer 2 ACK History

It will now be described how to use the PMRM and Layer 2 ACK history.

FIG. 6 shows a flow chart illustrating a method for controlling forward power through changes in PMRM or Layer 2 Ack history according to the present invention. As illustrated in FIG. 6, the BSC determines whether there is at least one error in PMRMs received within the most recent N seconds and whether a message has been transmitted on the Layer 2 Ack history, at step 600.

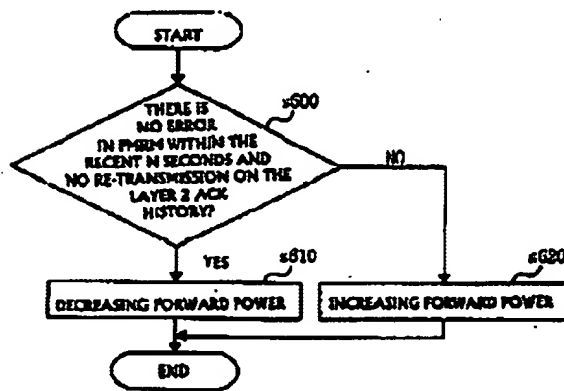
Since the PMRM includes the forward frame error rate, the BSC confirms whether all frame error rates, which are included in those PMRMs received within the most recent N seconds, are less than or equal to a specific threshold. If all frame error rates included in the PMRMs received within the most recent N seconds, are less than or equal to a specific threshold, the BSC determines that no error occurred in the forward link within the recent N seconds.

If there is no error in the PMRMs received within the most recent N seconds and no message has been re-transmitted on the Layer 2 ACK History, the BSC

orders the BTS to decrease the forward transmit power at step 610, otherwise, the forward transmit power is increased at step 620.

The power control method performed as stated above can be applied to both a case where the forward link is not good and a case where the reverse link is not good. Because the BTS uses the information previously stored prior to when the forward link or reverse link going bad even though the information received in the BTS is different depending upon whether the forward or reverse link is faulty.

Kang, FIG. 6
FIG. 6



The above discussion at col. 2, lines 47-53, col. 5, lines 26-31 and col. 6, lines 41-47 refers to the measurement of a forward frame error rate (FFER) to determine if it exceeds a predetermined threshold, the measurement of an erasure indicator bit (EIB) over a duration of approximately five frames, not receiving an ACK or receiving a NACK, determining whether a forward error rate count is higher than a specified level of a reverse erasure frame, and determining whether a forward error is higher than a specified level. However, there is no discussion of increasing the transmit power in accordance with the frame's position or increasing the transmit power in accordance with an amount of data transmitted.

The above discussion at col. 6 lines 24-35 refers to finding optimal values for each of three input parameters through repeated testing, wherein the additional input parameters include: determining whether reverse erasure frames are continuously received, whether re-transmission is continuously performed as an ACK is not received, and the value of pilot strength. More generally,

the above discussion at col. 3, line 65 to col. 7 line 24 refers to a method for controlling forward link power independent of reverse link power control. However, there is no discussion of increasing the transmit power by steps when one or more starting frames are received in error.

With regard to independent claims 25 and 29, the Office Action asserts that Wilson teaches the limitations "determining whether a portion of a frame was received in error during a transmission in the wireless communications system" and "invoking a re-transmission of the portion of the frame received in error without invoking a re-transmission of the entire frame in the wireless communications system" at col. 10, lines 27-43 and col. 17, lines 35-49.

These portions of Wilson are set forth below:

Wilson: Col. 10, lines 27-43

The communication path 304 (FIG. 3) can be implemented in any of numerous ways, and the invention is not limited to any particular type of communication path. In one illustrative embodiment, for example, the communication path 304 is implemented using one or more conventional communication links (e.g., ESCON links) between the storage controllers 302a-b. In another illustrative embodiment, the communication path 304 includes interface units 608a-b (see FIGS. 6 and 7) to interface the storage controllers 302a-b with a commercially available communication channel 610, such as a T3 communication channel (described below). In further illustrative embodiments, the communication path 304 is implemented over the network cloud 114 that couples the Web servers, or over a wireless communication link (see FIG. 16). A detailed description of each of these alternative implementations of the communication path 304 is provided below.

Wilson: Col. 17, lines 35-49

Error checking and recovery is conventionally performed in one of two ways. When a large block of data is transferred (e.g., 64 k bytes in the examples above), error checking and recovery may be done solely on the block level, such that if an error occurs in any of the transmitted bytes of data in the block, the entire block is re-transmitted. This type of error checking is generally employed with a very reliable transmission medium through which errors are infrequent. Alternatively, error checking and retransmission may be performed on a lower level (e.g., the 1 k byte frames discussed in the example above). Thus, if the transmission medium is relatively unreliable so that more frequent errors occur, only a smaller frame of data need be re-transmitted to recover from the error, so that a large performance penalty is not incurred in re-transmitting the entire block.

The above discussion at col. 17, lines 35-49 does not determine whether a portion of a frame was received in error, and then re-transmit only that portion of the frame. Instead, Wilson merely describes re-transmitting frames that are in error. Indeed, nowhere does Wilson describe

determining whether a portion of a frame was received in error, and then only re-transmitting that portion of the frame rather than the entire frame.

Therefore, the cited references do not anticipate or render obvious Applicants' claimed invention. Moreover, the various elements of Applicants' claimed invention together provide operational advantages over the references. In addition, Applicants' invention solves problems not recognized by the references.

Thus, Applicants' attorney submits that independent claims 1, 8, 15, 20, 25, and 28 are allowable over the references. Further, dependent claims 2-7, 9-14, 16, 21, 26-27 and 29-32 are submitted to be allowable over the references in the same manner, because they are dependent on independent claims 1, 8, 15, 20, 25, and 28, respectively, and thus contain all the limitations of the independent claims. In addition, dependent claims 2-7, 9-14, 16, 21, 26-27 and 29-32 recite additional novel elements not shown by the references.

V. Conclusion

In view of the above, it is submitted that this application is now in good order for allowance and such allowance is respectfully solicited. Should the Examiner believe minor matters still remain that can be resolved in a telephone interview, the Examiner is urged to call Applicants' undersigned attorney.

Respectfully submitted,

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